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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

700 W. Chewwater, Suite 102 • Kennewick, Washington 99336 • 509/346-2990

April 27, 1994

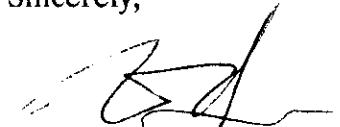
Ms. Pam Innis  
U.S. Environmental Protection Agency  
712 Swift Blvd, Suite 5  
Richland, WA 99352

Dear Pam:

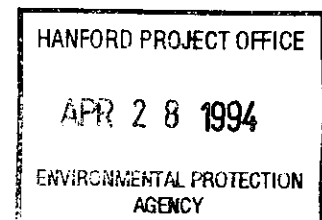
The attached Washington State Department of Ecology comments on the Remedial Investigation and Feasibility Study Report for the Environmental Restoration Disposal Facility, DOE/RL-93-99, dated March 1994, are being provided to you for your consideration and inclusion in EPA's formal response to the U. S. Department of Energy.

If you have any questions or would like to discuss the comments further, please call me at 736-3048. Thank you.

Sincerely,

  
Norman T. Hepner  
Nuclear Waste Program

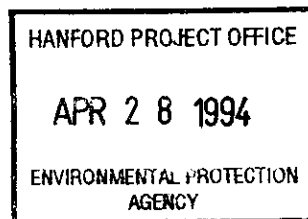
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**COMMENTS ON THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY  
REPORT FOR THE ENVIRONMENTAL RESTORATION DISPOSAL FACILITY,  
DOE/RL-93-99, MARCH 1994**

**GENERAL COMMENTS:**

1. The RI/FS document refers to the ERDF as a landfill and wastes to be disposed of within the ERDF as RCRA closure and corrective action wastes. ERDF is not a landfill, and wastes to be disposed of in ERDF are remediation wastes. All incorrect references should be changed. During comment resolution, the ARARS listed in section 7 should be reviewed and discussed to determine any changes needed based on this text modification.
2. Based on a recent Tri-Party decision, the preferred alternative encompasses only 1.6 square miles. The text referencing the six square mile site needs to be changed to refer to the 1.6 square mile site. Additionally, figures need to be modified. Because siting is a high public interest item, a summary of the alternative siting evaluation should be provided. Greater detail needs to be provided in the RI/FS, or the study included as an appendix.
3. The No Action alternative is not very well defined and is not ranked against the other alternatives. Based on the RI/FS analysis, it is not possible to clearly choose a preferred alternative over No Action. The discussion of No Action needs to be strengthened and better defined. The No Action alternative needs to be ranked against the other alternatives if a conclusion is to be reached.
4. The discussion of waste characteristics and volumes, section 3, suggests that there is in excess of 37.2 million cubic yards of remediation wastes (excluding the N area). This quantity of waste is greater than what ERDF is planned to be able to accept. Are all of these wastes planned to be disposed of within ERDF? If so, a discussion of the shortfall in available ERDF capacity needs to be explained. Additionally, how are N area wastes to be disposed of?
5. During the scoping public comment period, several commenters questioned whether bulk disposal of mixed waste was appropriate for the ERDF. A discussion of the merits and costs of containerizing the waste needs to be included in the RI/FS. The discussion should consider protection of the environment and worker safety. A brief should be provided in the executive summary with a larger discussion in section 8, or in section 9 under worker risk.



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6. Discussing choosing barriers based on short or long-term objectives is inappropriate. ERDF is intended to be a final remedy and the RI/FS should conclude on a preferred barrier for the ERDF. Institutional controls should be assumed to be lost 100 years after operations end.
  7. The NEPA/SEPA analysis is incomplete. Impacts of construction, operation, and credible accidents are not thoroughly discussed. Additionally, other impacts are not discussed, including wind and water erosion, displaced soil, transportation from waste and borrow site soil, habitat, air, etc. There must be a discussion of the consequences of actions both specific to this project and cumulative impacts. Furthermore, mitigation of these impacts are not provided for in the regulatory package. The package needs to lay out steps that may or will be taken to reduce or compensate for the impacts. Some of these steps are found in the CAMU application, but many are not. Examples of some of these steps include preparedness for accidents and actions taken to mitigate habitat impacts.

**SPECIFIC COMMENTS:**

8. Page ES-1, para 3/Page 1-3, para 3: Cultural resources is referenced as a NEPA value addressed during the typical RI/FS process. Within the same paragraph, cultural resources is incorrectly referred to as a NEPA value not normally addressed in the RI/FS process. Please correct this statement.
9. Page ES-2, para 1: The paragraph states that radiological contamination has been spread by animals to the ERDF expansion area and may be present east of the REDOX plant in the 200 West Area. Is this true? Since site is being reduced, this paragraph will require modification.
10. Page ES-3, Waste Characteristics: This section briefly describes the volumes of waste anticipated to require disposal in ERDF from the 100, 200, and 300 areas. The total for these areas is 37.2 million cubic yards. This estimate is much greater than previous estimates. Change these waste volumes estimates to be based on the same reference used by the Army Corps of Engineers.
11. Page ES-9, para 2: In discussing travel times and risks, provide the numerical higher risk estimates and shorter travel times for a wetter climate.
12. Page ES-10, para 2: In the discussion of long-term objectives for ERDF, the recommendation for barriers is different for differing scenarios. This is an inappropriate discussion. See General Comment #6.
13. Page 1-2, para 1: In providing background, the incorrect milestone number is given. The correct milestone number is M-70-00. Additionally, a discussion of the permitting of ERDF under RCRA needs to be made more clear. Elaborate

that a modification to the Hanford Sitewide Permit will be sought prior to operation of the facility.

14. Page 1-2, para 3: In providing the purpose, a discussion of LDRs and how they would delay cleanup is not necessary. The purpose should delete reference to LDRs and replace it with a discussion of the protectiveness of the environment using the flexibility afforded by the CAMU rule.
15. Page 1-3, para 2: In discussing RI/FS content at the source operable units, the text incorrectly states that source operable units will assess treatment options in the context of waste acceptance criteria for the ERDF. Treatment as a remedy will be assessed during the FFS at each operable unit and will include treatment necessary to meet ERDF waste acceptance criteria. If treatment is chosen as the preferred remedy, treatment will occur. If treatment is necessary to meet ERDF waste acceptance criteria, similarly, it will be done.
16. Page 1-4, para 3, pt 2: The lowest off-site dose in event of a radiological incident was deleted from the final SER. Delete this factor.
17. Page 1-4, para 4: An evaluation of the BC control area has been completed. A summary of this report should be included here.
18. Page 2-30, sect 2.6.1.2: This section is currently incomplete. The section should reference the 200 Area Aggregate Area Management Study.
19. Page 2-31, sect 2.6.2.1: This section is currently incomplete. The section should reference the 200 Area Aggregate Area Management Study.
20. Page 2-45, para 5, sent 2: The reference for the discussion on loggerhead shrikes is Poole 1992.
21. Page 2-48, sect 2.8.3: This discussion should include the USDOE policy to treat federal candidate and state threatened and endangered species as if they are listed federal threatened and endangered species.
22. Page 2-49, para 4, sent 4: Delete this sentence. Change reference from "whitesnake" to "whipsnake" in following sentence. Also indicate that the "woodhouse toad" is a state monitor species.
23. Page 3-2, sect 3.1.1.1: The discussion excludes N Reactor from consideration. Where will N Reactor be addressed and waste volume be estimated? What effect will it have on Hanford Site cleanup if excluded from ERDF? N Area waste should be included in waste volume estimates and planned for management in ERDF.

24. Page 3-17, table: The table shown on this page does not include unplanned release wastes that are discussed in paragraph immediately above it. These wastes should be included in the table.
25. Page 3T-1: The table lists wastes and waste types. Are these wastes all to be disposed of in ERDF?
26. Page 4-1: sect 4.1.1: This section discusses why a detailed performance assessment is not warranted. Are we or will we be conducting a performance assessment. A discussion of the merits of the evaluation needs to occur. If a performance assessment is to be performed, this paragraph should be changed to support work that is or will occur.
27. Page 4-7, para 2: This discussion compares the BC control area to the primary site. It concludes that the BC control area has greater distance to groundwater and would be more protective of groundwater. This does appear correct. Is the depth to groundwater for the BC Control Area correct? On Page 4T-1, the vadose zone thickness for the primary site is listed as 80 m (I assume this to be below the bottom of the trench; however, based on Page 4-7 information, I am incorrect). Please clarify.
28. Page 5-1, para 4: This discussion on using human health-based Contaminants of Potential Concern to evaluate ecological risk is too broad a statement. For example, pesticides are lethal by design to pests. This discussion should at least make note that in some instances, the use of human health-based standards is inappropriate to evaluate ecological risk.
29. Page 6-9, para 4, sent 5: There are five remaining inorganic contaminants which are not being considered a concern because their HQ is less than one. Have they been evaluated to determine if they have similar effects as the contaminants of concern? If so, they should be considered a contaminant of concern and the effect additive.
30. Page 6-9, para 8, sent 1: It is stated that none of the contaminant-specific HQs should be added together based on critical effects and simultaneous presence. It appears from Table 6-10 that Al and Ni would be present simultaneously and have the same critical effects. Therefore, Ni and Al combined HQ should be examined.
31. Page 6-13, para 2, sent 3: The text states that the consumption of 2 L per day of groundwater for 30 years is not a reasonable assumption. If its not reasonable, why are we using it? What is the basis for making this statement?

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32. Page 6-14, para 3, last sent: The use of the term "considerable" may be inappropriate, it is at minimum a poor word choice. Rephrase the statement to reflect the "conservativeness" of the uncertainty, and not the magnitude of the uncertainty.
  33. Page 7-20, para 3: Incorrect WAC reference. Correct reference is WAC 402-6.
  34. Page 7T-3: The table has significant errors. Ecology will provide recommended changes during comment resolution.
  35. Page 8-1, para 1: Incorrect reference to detailed evaluation. Change reference from chapter 10 to chapter 9.
  36. Page 8-1, para 3: It states that items not fully addressed in the RI/FS will be addressed in the detailed design and CAMU permit application. These items are not fully addressed in the CAMU permit application and this statement should be changed.
  37. Page 8-11, para 4: The statement is made that the RCRA barrier's ability to maintain its integrity over hundreds or thousands of years is uncertain. Is this statement not equally appropriate for both the modified RCRA and Hanford barriers?
  38. Page 9-13, para 2: The modeling assumes an operational period of 100 years. A 20 year operational period based on the TPA is more appropriate.
  39. Page 9-14, para 5: The discussion of administrative implementability is confusing. It appears that the low-permeability engineered soil barrier scores for compliance with MTRs when, in fact, it does not meet MTRs. Scoring for implementability must be placed into context and explained.
  40. Page 10-2, Detailed Evaluation: The words, "with the exception of no action" should be deleted. No action, if chosen, would imply other remedial actions in compliance with CERCLA criteria.